

## A New Species of *Cymatoceras* (Nautilida: Cymatoceratidae) from West Texas

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While investigating the herpetofauna of Pecos County, Texas, in June 1975, we collected a specimen of *Cymatoceras* from an unknown horizon of the Duck Creek Formation (Washita Group, Lower Cretaceous). This specimen represents a new species of *Cymatoceras* described below.

### *Cymatoceras pecosense*, n. sp.

*Material*.—Holotype and only specimen (essentially complete) deposited in the Field Museum of Natural History, Chicago, PE 28358, Pecos Co., Texas, 8 air km W of Iraan (=2.3 km SW jct. Tex. Hwy. 29 and Tex. Hwy. 349), 30°55'N, 101°59'W. The specimen was weathered out of an abandoned road cut and since there were several fossiliferous horizons its exact position in the Duck Creek Formation is unknown. The ammonite genus *Mortonicer* was very abundantly represented at the type locality.

*Diagnosis*.—A species of *Cymatoceras* with shell about as high as wide; ornamentation only on adoral end on internal mold of mature shell; sutures essentially straight.

*Description*.—Moderately large nautilionic shell (diameter at least 115 mm), slightly distorted, left side partially eroded (Fig. 1A); umbilicus small, diameter about 5 mm; umbilical callus not determined (since holotype is an internal mold); shell 48 × 52 mm at 180° adapical of oral margin; shell 63 × 98 mm at adoral end (which may be somewhat crushed in a dorso-ventral direction); adoral half whorl consisting of living chamber while remainder is phragmocone; venter more narrowly rounded than lateral areas, forming slight sulcus on adoral portion of living chamber; umbilical shoulders rounded, more or less indefinite; mold widest ventrad of umbilical shoulders; only adoral quarter of specimen bearing ribs (Fig. 1B); low rounded ribs forming broad lateral salients and prominent, deep, narrowly-rounded, almost V-shaped, ventral sinus; ribs separated by rounded depressions, best developed ventrally, and on ventral half of sides becoming obsolete on dorsal half of sides; growth lines fairly coarse, present only on small portion of sides bordering umbilicus; sutures almost transverse to longitudinal axis of shell with only shallow lateral lobe and shallow umbilical saddle; internal suture and position of siphuncle unknown.

The specimen may represent a mature individual as the adoral portion of the living chamber is slightly modified (Fig. 1C). The modification consists of a transverse groove at the adoral margin of the shell similar to the one reported for *C. loeblich* by Miller and Harris (1945).

*Etymology*.—Named for Pecos County, Texas, from which the holotype was collected.

*Comparison*.—Of the previously described species of *Cymatoceras*, *C. pecosense* is most similar to *C. hilli* (Shattuck, 1903) and *C. loeblich* Miller and Harris (1945). Both *C. hilli* and *C. loeblich* are more compressed and expand at a slower rate than *C. pecosense*. *Cymatoceras hilli* has sinuous sutures whereas *C. pecosense* has nearly straight sutures similar to those of *C. loeblich* (Miller and

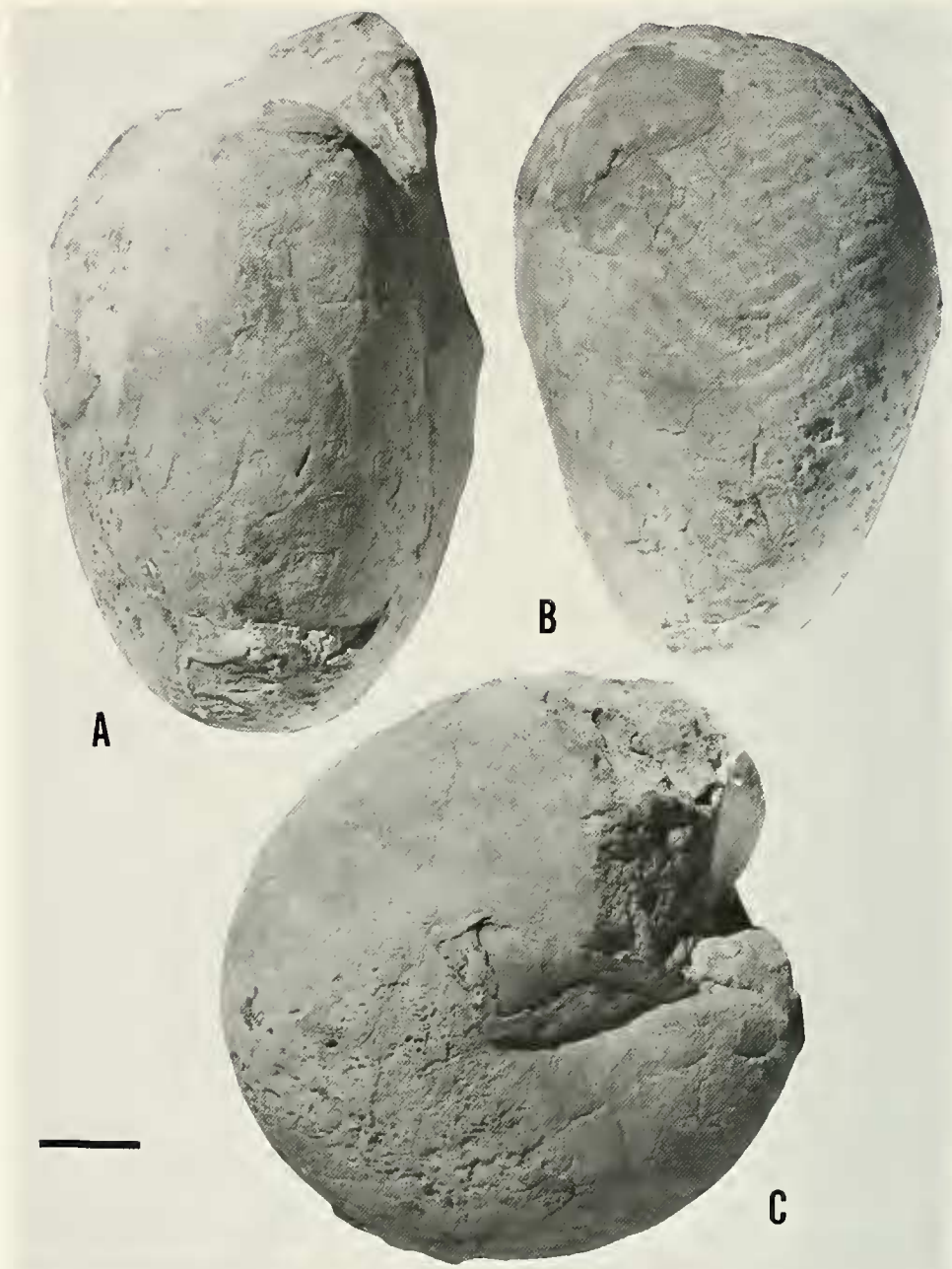


Fig. 1. *Cymatoceras pecosense*, holotype, Field Museum of Natural History, PE 28358: A. dorsal view; B. Ventral view; C. lateral view. Bar equals 2 cm.

Harris, 1945, Fig. 2). Also, *C. loeblichii* has ribs that reach well past the junction of the phragmocone and living chamber, whereas the ribs of *C. pecosense* do not reach the phragmocone.

## Literature Cited

- Miller, A. K., and R. A. Harris. 1945. North American Cymatoceratidae (Mesozoic Nautiloidea). *J. Paleont.*, 19(1):1-13.
- Shattuck, G. B. 1903. The Mollusca of the Buda limestone. *U.S. Geol. Surv. Bull.*, 205:9-36.
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**Notes on the Biology of *Ceuthothrombium cavaticum* (Acari: Trombidiidae), a Parasite of Cave Crickets (Rhaphidophoridae: *Ceuthophilus*)**

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Recently, *Ceuthothrombium cavaticum* Robaux et al. (1976) was described from larvae removed from several species of preserved *Ceuthophilus* collected from caves in Texas, New Mexico, and Mexico. Subsequent acquisition of living larvae from crickets obtained from Spider Cave, Eddy Co., New Mexico, gave the opportunity to rear this species through its post-larval stages. The systematic placement of trombidiid mites is based primarily on nymphal and adult specimens, therefore the establishment and study of correlated life-stage series, including the larva, is important to the taxonomic stability of this species.

Twenty larvae were obtained from five crickets that had been killed and placed over a pan of water to which a drop or two of detergent had been added. The larvae dropped off within two days and were recovered from the water and placed individually in 5-dram plastic vials. The vials had been filled to near the top with a 9:1 mixture of plaster-of-Paris and charcoal liquified with distilled water, a procedure adapted from Lipovsky (1953). This substrate allowed the maintenance of a high humidity (nearly 100%) by a weekly addition of several drops of distilled water. The mites were kept in the laboratory where the temperature ranged from 23-25°C. No attempt was made to control light intensity or photoperiod, although, by virtue of the culture vial and its lid, light was of low intensity. Active post-larval stages (deutonymphs and adults) were fed regularly with newly deposited eggs from a laboratory culture of collembolan insects (family Entomobryidae) that in turn were fed Fleischmann's dry yeast. The mite cultures were checked on an average of 3 to 5 days and 10 eggs were placed in each deutonymph's vial as soon as it emerged. When the eggs were consumed, five to 10 more were added to the vial. Numbers of eggs put into the culture vials were recorded and, in most instances, eggs were available to the mites as their needs required. On several occasions, crushed, early-instar collembolans were offered to certain mites but were not fed upon. During the course of rearing, selected individual protonymphs (nymphochrysalises; calyptostases), deutonymphs, tritonymphs (imagochrysalises; calyptostases), adults, and all observed cast exuvia (shed skins) were recovered and preserved separately in 75% ethanol or mounted on microscope slides in polyvinyl alcohol-lactic acid. In a number of cases when adults were reared, a series of correlated slides was made of the larval and nymphal exuvia and the adult mite.